DOCUMENT RESUME

ED 071 873 SE 015 487

TITLE	A Report on the State Conference on Environmental Education.
INSTITUTION	Tennessee State Dept. of Education, Nashville.
PUB DATE	72
NOTE	47p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Conference Reports; Educational Planning; *Environmental Education; Master Plans; State Agencies; *Statewide Planning
IDENTIFIERS	*Tennessee

ABSTRACT

As one phase in the design of an overall plan for environmental education in Tennessee, a statewide conference was sponsored to give direction to environmental education in that state. The purpose of the conference was to bring together a broad spectrum of public and private agencies, councils, and organizations to exchange ideas and information about the quality of the environment and environmental education in Tennessee. Specifically, the participants sought to: (1) identify concerns about the environmental crisis, (2) explore existing endeavors and resources, (3) establish priorities, goals, and objectives for environmental education, and (4) suggest mechanisms for implementing a state plan for environmental education. Their recommendations are summarized under 14 categories: state plan, legislation, leadership, coordination, communication, teacher education, community education, information exchange, survey of resources, in-service education, curriculum development, evaluation, environmental centers, and other areas. This document, therefore, is a compilation of their pertinent, and often conflicting, comments and recommendations. As a report, it is not construed to be a master plan for environmental education. Rather, its contents are to be utilized in the final preparation of the state plan by a special task force. (BL)

ED 071873

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

A REPORT ON THE STATE CONFERENCE ON ENVIRONMENTAL EDUCATION

***

STATE OF TENNESSEE

DEPARTMENT OF EDUCATION
DEPARTMENT OF CONSERVATION
DEPARTMENT OF PUBLIC HEALTH

1972

LE 015 487

FOREWORD

Recognizing the urgency of the environmental crisis in the nation and the challenges to both formal and nonformal education, the Tennessee Department of Education, in cooperation with the Department of Conservation and the Department of Public Health and other agencies, proceeded in the design of a tentative state plan for environmental education in Tennessee. (Refer to schematic in Introduction). One phase of the plan was to sponsor a statewide conference to give direction to environmental education in Tennessee.

The purpose of the conference was to bring together a broad spectrum of public and private agencies, councils, and organizations to exchange ideas and information about the quality of the environment and environmental education in Tennessee. Participants were selected on the basis of their interest in environmental education and the organizations they represented. The participants identified concerns about the environment, explored existing environmental endeavors and resources, suggested goals and priorities for environmental education, and made numerous recommendations.

This document is a compilation of the many pertinent, often conflicting, comments and recommendations. This report should not be construed to be the master plan for environmental education. Instead, its contents will be utilized in the final preparation of the state

master plan by a special task force. The Tennessee Master Plan for Environmental Education should be completed and in print by January 1, 1973.

A permanent environmental education steering committee and advisory council will be appointed in November, 1972.

ACKNOWLEDGMENTS

The State Departments of Education, Conservation, and Public Health acknowledge and express their appreciation to the many persons and agencies that participated in the planning and execution of the statewide Environmental Education Conference. The sponsors also appreciate the active participation of the conferees in the conference and, in particular, the group sessions.

The Departments are especially indebted to the interagency Environmental Education Conference Planning Committee for planning and coordination. Special recognition is given to Mr. Peter Cohan, Mr. Tom Kelley, Mr. Sam Johnson, Mr. M. R. Mayfield, Dr. Paul Wishart, and Dr. Alan Heilman, who provided outstanding leadership as group discussion leaders. The following persons served as recorders in the group sessions and assisted in the editing of the group report; Miss Karen Chadwick, Dr. Ruth Neff, Miss Ann Winstead, Mrs. Geraldine Hall, and Miss Barbara Brooks. The sponsors also acknowledge the special contributions of the Cooperative Science Education Center.

Special mention must be made of those organizations which added an extra dimension to the conference by providing attractive and informative displays. The U. S. Army Corp of Engineers, Nashville District, provided the excellent "Johnny Horizons Exhibit" and several consultants to the conference. Other outstanding exhibits were provided by the Cooperative Science Education Center, Tennessee Game and Fish Commission,

Tremont Environmental Education Center, Tennessee Environmental Council, Metropolitan Nashville Public Schools, Department of Conservation, Department of Public Health, and the Middle Tennessee Council of Girl Scouts.

The Departments of Education, Conservation, and Public Health are especially indebted to Dr. Donald C. McGuire, Director, Pre-service Teacher Education Program, National Science Foundation, for his outstanding contribution to the conference. Dr. McGuire assisted the Environmental Education Conference Planning Committee and served as special consultant during the conference. The Departments also express appreciation to Mr. Tommy Gilbert, Head, Office of Interpretive Services and Environmental Education, National Park Service for his participation in the conference and the valuable information and insight which he contributed.

A number of persons who were not able to attend contributed to the success of the conference. Special thanks is extended to Mrs. Judy Simpson, secretary to Mr. Joe Minor, Department of Education, who served as secretary to the Environmental Education Conference Planning Committee and attended to the numerous details that enable a conference to run smoothly.

TABLE OF CONTENTS

	PAGE
Foreword	i
Acknowledgments	iii
Definition of Environmental Education	vi
Introduction	1
Keynote Address "Some Comments on Environmental Education"	5
Group Reports	
Concerns	11
Goals	16
Priorities	18
Recommendations	19
Resources	26
Conference Program	32
Conference Participants	34

DEFINITION

PUBLIC LAW 91-516 DEFINES ENVIRONMENTAL EDUCATION AS

"the educational process dealing with man's relationship with his natural and man-made surroundings, and including the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total human environment."

INTRODUCTION

The State Department of Education submitted a small grant proposal to the U. S. Office of Education under the Environmental Education Act, P. L. 91-516 in May of 1971. The proposal was prepared by a committee composed of several members of the Division of Instruction, Department of Education and the Director of Educational Services, Department of Conservation. In preparing the proposal, this special committee attempted first, to design a tentative state plan for environmental education in Tennessee and second, to prepare a small grant proposal for a state conference on environmental education.

Due to limited federal funds for environmental education, the Department of Education did not receive assistance from the U. S. Office of Education. Of the 1,925 proposals submitted to the U. S. Office of Education in FY 71, seventy-four were approved.

The Department of Education, in cooperation with the Department of Conservation, continued to gather information and plan for a statewide commitment to environmental education. On November 11, 1971, this same committee on environmental education met with E. C. Stimbert, Commissioner of Education and William Jenkins, Commissioner of Conservation. The committee reported verbally and in writing the status of environmental/conservation education in Tennessee and made recommendations to the Commissioners concerning a tentative state plan for environmental education. One phase (the second) of the proposed tentative state plan called

for a conference to give direction to environmental education in Tennessee. The Commissioners directed this special committee, under the supervision of the Assistant Commissioner for Instruction, to select an interagency Environmental Education Conference Committee to plan and to prepare a proposal for a statewide environmental education conference.

The Environmental Education Conference Committee was selected and consisted of the following persons:

State Department of Education

John E. Cox, Assistant Commissioner

*Joe Minor, Director, NDEA, Title III

*Van Latture, Social Studies Supervisor

*Jerry Rice, Science Supervisor

George Hunter, Health and Physical Education Supervisor

Tom Kelley, Director, Curriculum Planning

James Gumm, Director, Health, Physical Education, and Driver Education

Donald Wood, Coordinator, Curriculum and Supervision

James Cannon, Coordinator, Instructional Materials

State Department of Conservation

*James Bailey, Director, Educational Services

State Department of Public Health

*Patrick Accardi, Director, Health Education

Tennessee Game and Fish Commission

Eugene Legler, Game and Fish Planner

---

*Members of the Environmental Education Conference Executive Committee

Tennessee Environmental Council

Dr. Ruth Neff, Director

Center for Teachers, Austin Peay State University

M. R. Mayfield, Director

Cooperative Science Education Center, Oak Ridge

Richard J. Raridon, Project WASTE Coordinator

Bill Rickman, Environmental Education Specialist

Tennessee Valley Authority

Jonathan Wert, Educational Relations Officer (Environmental Education)

The Environmental Education Conference Committee met in working sessions on December 29, 1971; January 17, 1972; and March 16, 1972. The Committee approved final plans, in schematic form, for the tentative State Plan for Environmental Education and for a State Conference on Environmental Education. The Conference Proposal was submitted to the Commissioner of Education with copies to the Commissioner of Conservation and the Commissioner of Public Health. The Proposal was approved on March 27, 1972, and the necessary funds were made available by the Commissioner of Education. This Conference was sponsored by the Department of Education, the Department of Conservation and the Department of Public Health, and in cooperation with the Cooperative Science Education Center, the Center for Teachers, the Tennessee Environmental Council, Tennessee Game and Fish Commission, and the Tennessee Valley Authority.

The statewide Environmental Education Conference was designed to bring together a broad spectrum of both public and private agencies, councils, and organizations to:

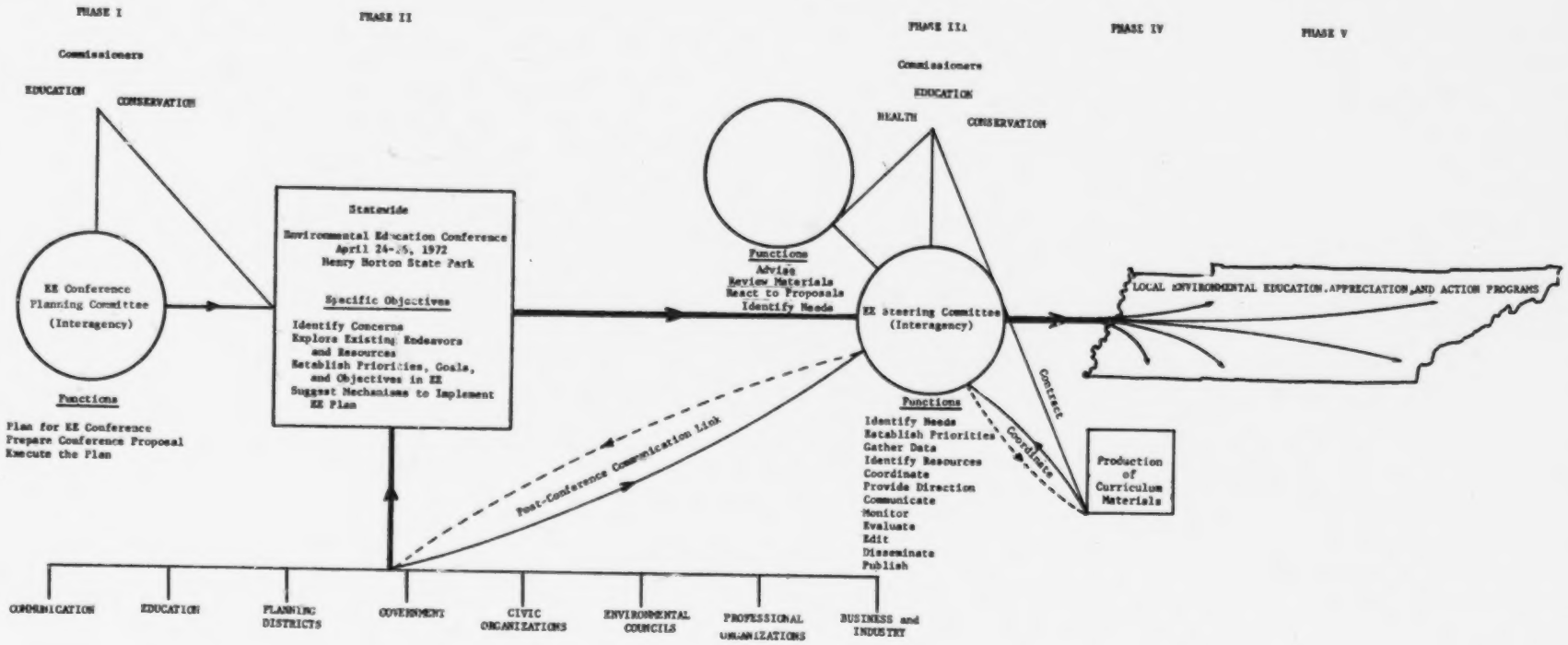
1. Identify concerns about the environmental crisis
2. Explore existing endeavors and resources
3. Establish priorities, goals, and objectives for Environmental Education
4. Suggest mechanisms for implementing a "State Plan for Environmental Education"

The Conference was conducted on April 24-26, 1972, at Henry Horton State Park, Chapel Hill, Tennessee. Approximately one hundred participants representing education, communication, civic organizations, environmental councils, governmental agencies, professional organizations, planning districts, and industry attended the workshop conference. In order to accomplish the conference objectives, the participants were divided into five discussion groups with a broad diversity of backgrounds and experiences.

After the group sessions, each recorder summarized the discussion and interaction. Reports were typed, reproduced, and returned to each group for review. The group leaders then verbally reported to the general session on the final day of the conference.

The group reports were edited again and submitted in final form to the Conference Executive Committee. The Executive Committee compiled the reports and submitted them to the Environmental Education Conference Committee for review on September 29, 1972.

STATE PLAN FOR ENVIRONMENTAL EDUCATION, APPRECIATION, AND ACTION IN TENNESSEE



Some Comments on Environmental Education

Donald C. McGuire*

National Science Foundation

The National Science Foundation handles environmental education precisely as it does any other--education in chemistry, physics, or oceanography, for example. We have not neglected the subject, for our 1971 spending for environmental education was in the range of $4-5 million.

In order to show the relationship of science to environmental education, let me first define science as a duality: the structured approach man uses to gain knowledge about himself and all of nature on the one hand, and on the other, the accumulated knowledge that has already been gained. Regarding the environment, science can be used as a tool to understand. Science cannot be used as a means to correct or improve.

Environmental education can take three forms:

1. The environment is used as a setting for teaching.
2. An effort is made to make people aware of their surroundings and the potential problems thereof.
3. Programs are designed to foster development of the capacity to make valid judgments regarding environmental questions.

---

*Keynote speaker and special consultant for the Environmental Education Conference

In science education, the volume of known facts has become so great that no one can know even the amount needed in a narrow specialty. During my senior year in college, I remarked to my professor that I didn't know if I would like research. Now we must do research, or stay out of science. Research is not all formal. The man who tried it once but didn't like it was doing research. His technique was inefficient, but it was an adequate base for making valid judgments.

In education, many of us still use the magic wand technique. We talk to children, but we don't listen to them. Mostly, we forbid them to talk. After graduation, it will take magic to teach them to communicate. We, the teachers and administrators, set all of the goals and schedules. Upon graduation, people will, if the magic wand works, be independent adults. We make students sit in rows and read about teaching. Then the magic wand will convert them into teachers after they graduate. (We add a few weeks of student teaching near the end, after it is too late to change one's mind or benefit from experience.)

Not long ago, the Federal Government changed its signals regarding phosphate detergents. How many classes dug into that story deeply enough to learn what was involved? It was a beautiful example of government in action--did the classes in government or civics dig into it? Did the classes in chemistry test the substances being marketed? Or the classes in biology, or in home ec? Or in economics?

We have a choice--a spectrum of choices--regarding educational procedures involving the environment. A most hopeful fact is that today real knowledge about the environment is scarce. Hence, a teacher who wants to do a good job in environmental education will not say, "This is the answer and you must remember it." The good teacher will say, "Let

us find a problem and try to solve it. If we solve it, we shall have contributed to all of mankind. Whether we solve it or not, we shall have learned something about perceiving problems--AWARENESS--and about solving them- Valid Judgments. . ."

This is not to say that there should be no work with abstractions and no rigorous thinking about cause and effect. These are vitally important to education, particularly for people with wider responsibility in science or government.

We must work at both levels. The Ten Commandments do not say know these things, or remember these laws. The Ten Commandments say do not do certain things, and do other things. They are guides to behavior.

Behavior of the right kind can save our world. But it takes understanding to know what is the right kind. It takes keen intellectual tools to gain real understanding. "Crisis of the Commons" by Garrett Hardin is based on one such tool. I recommend that every one of you who teaches environmental subjects view this film.

Among the intellectual tools that have been available for a long time is an understanding of the power of the exponential.

An exponential is a mathematical term that, as I understand it, means that one begins with a base figure or datum and conducts a mathematical operation on it. The result is subjected to the same operation. That result is also subjected to the same operation, and so on.

An analogy is the doubling of each successive result as in powers of 2:2-4-8-16-32-64-128-256-etc. An old Persian story has a grateful ruler awarding a beggar anything he wishes. The beggar asked that a chessboard be used to count grains of wheat. On the first square place one grain, two on the second, four on the third, eight on the

fourth--and continue doubling for each of the 64 squares. Of course, there isn't that much wheat--and never has been.

The French version of the story is of a farmer with a pond an acre in size that is being covered by a water weed. The weed doubles its size each day and will cover the pond in 30 days. We are asked, on which day will the pond be half covered. The answer, of course, is day 29. The last day will be quite a shock to anyone accustomed to the earlier pace.

The data representing trends in our society--volume of air pollution, the accumulation of solid waste, the depletion of natural resources, the growth of population and the like, have grown exponentially. Workers have fed these data and estimates of the limits into computers. Programs are designed to project the future of these curves, because, even though individuals are human, groups of humans act in accord with natural laws. The result is a prediction of catastrophe about two generations from now.

The projections are based on estimates and therefore cannot be considered as predictions. We can, however, predict that our nation is still rich enough to take many measures that will slow the curves. But we can also judge that there is a real chance that we may traverse some unseen balance point beyond which all of our power and wealth cannot reverse the trend. Even so, I cannot predict precipitate catastrophe. It is much more likely that we will grind down to a quality of life like that of Calcutta today.

We don't really need to fight for survival. Instead, we must be able, all of us, to bring about the actions necessary to maintain an acceptable standard of living. It will be an even harder fight.

There lies the challenge--and the opportunity.

SUMMARY OF GROUP REPORTS

CONCERNS

The following concerns are listed directly as four of the five groups reported:

Group A:

Group A, like other groups assembled for this conference, represented a broad diversity in knowledge, occupation, and interest. Participants varied from those in policy making positions to individuals representing lay organizations, only indirectly related to the formal educational process.

As the group began its effort to identify and specify their concerns about environmental issues, it was evident that their concerns extended far beyond the borders of the state of Tennessee. As discussions developed, it appeared that these concerns could be placed into two general categories. A number of concerns were voiced which were descriptive of behavioral reactions of the public to environmental problems. Such concerns were described as environmental apathy, attitudinal indifference, lack of responsibility, the absence of any real answers, and a number of comments which specified one of the more significant underlying causes of environmental misuse, that of human value systems in conflict.

While numerous comments and discussions focused on both individual and group behavior concerning the environmental crisis, other members of this group focused their attention on specific environmental insults. A simple, two-dimensional matrix of the behavioral and environmental concerns expressed may be found on Page 12. Perhaps more importantly, it should

A SYNTHESIS OF ENVIRONMENTAL CONCERNS AS EXPRESSED

FROM THE INDIVIDUALS PERCEPTION OF THE PROBLEM

BEHAVIORAL	LACK OF INNOVATIVE AND IMAGINATIVE ANSWERS	ATTITUDINAL INDIFFERENCE	LACK OF KNOWLEDGE OR SKILLS	ECONOMIC BARRIERS AND DYSFUNCTIONS SUCH AS UNLIMITED GROWTH	THE LACK OF RESPONSIBLE CITIZENSHIP IN RELATION TO THE TOTAL ENVIRONMENT	VALUE SYSTEM CONFLICTS
WATER QUALITY						
AIR QUALITY						
ENFORCEMENT OF STANDARDS						
LAND USE PATTERNS						
CHEMICAL INSULTS TO THE ENVIRONMENT						
HUMAN HEALTH IMPACTS						
ENERGY						
SOLID WASTE AND LITTER						
ENVIRONMENTAL QUALITY STANDARDS DEVELOPMENT						
NOISE						
HOUSING AND STANDARDS						
POPULATION CONTROL						
RESOURCE CONSERVATION AND MANAGEMENT						

be noted that the group had a high general awareness of environmental problems and to a large extent, an awareness of some of their causes and interrelationships. As a result, members of the group emphasized the need for increased regulation of the public and private sectors while others desiring the same goal, sought to recommend non-regulatory or self-directed improvements in relationship to the environment. In neither case did the group suggest the exclusion of either approach, but rather, a combination of regulation and education leading to self direction which should gender a more environmentally oriented citizenry.

Group B:

1. Population--growth and distribution
2. Pollution of the ecosphere--air, water, land, organisms
3. Irreversibility of environmental degradation
4. Concentration and accumulation of toxic and hazardous substances in the ecosphere, e.g., radioactive isotopes, pesticides, mutagens, heavy metals
5. Environmental impact of affluence
6. Environmental impact of technology, power
7. Land use--planning, zoning, preservation of natural areas
8. Development of adequate skills--tools for political action
9. Communication

Group C:

A. American attitudes, values, and behavior concerning the environment
   1. Awareness of the problem
   2. Establishing attitudes and values - whose?
   3. Means to implement change
   4. Relevance to socio-economics
   5. Education's role
   6. Government and industry's role
   7. Developing an environmental philosophy

Group C: (Cont.)

B. Education for environmental quality
   1. An environmentally integrated curriculum
   2. Learning through student participation and involvement and application
   3. Utilization of environmental resources as instructional aids
   4. Schools' role in leading society in formulating new values and behavioral patterns
   5. Teacher training in environmental education--in-service and preservice

C. Natural Resources
   1. Air, water, space, noise, population pollution
   2. Planning for wise resource use
   3. Man/resources ethic
   4. Determining priorities for resource use

Group D:

1. Lack of proper and enforcible environmental regulations
   A. Water quality
   B. Air quality
   C. Noise
   D. Land use
      (1) Competing interest for land use
      (2) Proper zoning for agriculture, wildlife, recreation
      (3) Long-range planning
      (4) Transportation considerations (as a part of planning)
      (5) Cost and universality of problems - (should result in a regional interaction of local interest)

2. Economics of and politics involved in Environmental Crisis
   A. Tax structure (penalizes those who retain open land)
   B. Awareness of cost-benefits
      (1) Providing revenues
      (2) Establishing strategies for environmental clean-up
      (3) Communicating costs for alternative clean-up strategies to the public

3. Optimum resource utilization (Natural Resource Priorities)
   A. Supporting innovative approaches to environmental education efforts in our school systems (K-university)
      (1) Re-emphasize our selling techniques
      (2) Teacher training - beginning point
   B. Encouraging interagency cooperation in meeting environmental challenges both in regulation and public health

Group D: (Cont.)

4. A need for basic consumer education

5. A need for including environmental health education as an organized part of Tennessee's education program

GOALS

The following goals are listed directly as four of the five groups reported:

Group A:

As the group moved into discussions of goals for environmental education in Tennessee, the wide diversity of problem perception became most evident. Some participants specified that the goals should influence attitudes concerning (a) consumerism, (b) unlimited economic growth, (c) problems of over-population, and (d) stewardship. Others felt that the principal goal should be simply stated as being able to define an environmental problem and be able to take action after having decided on the most appropriate course of action. One group participant emphasized the value context in which the goals could be formulated. The value context specified was the inculcation in learners of a value for,

1. natural beauty
2. orderliness
3. durable goods
4. reduced materialism
5. basic human needs other than minimum physical requirements
6. freedom and dignity
7. a wide diversity of choice concerning both livelihood and leisure
8. smaller families
9. conservation of natural resources

During the work sessions, further emphasis was given to goals concerning (1) the involvement of all learners in the environmental problem-solving process and (2) the encouragement of individuals to

make use of their knowledge in their everyday lives so that their actions would be environmentally benign. In addition to those already stated, there was considerable discussion concerning the need to provide for extensive study and/or action regarding population control alternatives.

Group B:

The primary goal for all the people of Tennessee must be an attempt to survive, while maintaining an acceptable quality of life through providing sound environmental education for all--education which includes the improvement of the capability of Tennessee citizens to make good value judgments in choosing among options.

Group C:

The environmental education goal for Tennessee should be the development of an environmentally literate and active citizenry making decisions in relation to the natural laws.

Group D:

Through environmental education increase the environmental awareness in all sectors of society.

Through environmental education restore environmental quality and encourage environmental conservation as a basic desire of all citizens.

Through environmental education improve the quality of life for all people.

PRIORITIES

Although priorities were set by all the discussion groups, one group listed priorities as a separate category.

Group A:

Priorities were established which emphasized the initiation of elementary and secondary teacher education programs both pre- and in-service which were to be interdisciplinary in their content. It was also felt that an early priority should be the identification of local school personnel who can provide leadership in environmental education activities.

RECOMMENDATIONS

The following recommendations are taken directly from the reports of each of the groups participating in the conference. The recommendations were compiled under fourteen categories. The categories are (1) State plan, (2) Legislation, (3) Leadership, (4) Coordination, (5) Communication, (6) Teacher education, (7) Community education, (8) Information exchange, (9) Survey of resources, (10) In-service education, (11) Curriculum development, (12) Evaluation, (13) Environmental centers, (14) Other. Similar recommendations in several categories indicate the groups' concerns for particular problems.

(1) State Plan

Recommend endorsement of the State Plan for Environmental Education, Appreciation and Action in Tennessee, (tentative plan) and further that Phase III be implemented as soon as is feasible.

(2) Legislation

To develop and promote legislation to implement both short and long-term goals or objectives of the state plan, (a) enabling legislation, and (b) appropriation legislation.

(3) Leadership

To encourage the establishment of a state staff component for the administration and management of environmental education programs in the state.

Leadership (Cont.)

Provide for an Environmental Education Supervisor in the State Department of Education.

State should provide aid in terms of qualified people and assist in the preparation of qualified personnel for local programs.

Develop within the State Department of Education an office of Environmental Education - Environmental Education Supervisor.

Tennessee Department of Education establish a division or unit with a major responsibility for environmental education--major role to implement the goals and objectives of the state plan.

(4) Coordination

Establish interagency coordination and cooperation among appropriate State Departments in planning, monitoring, and implementing environmental education programs.

Provide liaison service between non-state governmental agencies.

To provide coordination of the environmental education programs in all related agencies and organizations in the public interest.

(5) Communication

Strive to develop improved communications among cooperators and all agencies, and importantly, the total citizenry.

Devise an efficient means of disseminating information.

Provide aid and information to non-public schools.

Identify means of acquiring accurate and specific data.

Use public-service spot announcements to "sell" the environmental message.

Improved communications in the community using all media especially television.

(6) Teacher Education

Develop and implement a certification program to insure that teachers are trained in the area of environmental education.

To provide support (funding) for teacher training curriculum development.

Reassess the minimum certification requirements to include environmental education courses and establish guidelines for minimum certification requirements in environmental education.

Require certification in Environmental Education for teachers of Environmental Education.

Require an environmentally field-oriented course of all certified teachers.

Recommend that a minor area of study in Environmental Education be offered at state universities, with the State Department of Education providing necessary materials for implementation.

Review and revise certification procedures relative to the certification of environmental education specialists.

(7) Community Education

To design and develop innovative communication and education programs that focus on total community participation in environmental studies.

To specifically encourage an awareness of socio-political components of environmental problems.

To provide environmental education programs for the general public with emphasis on the important role of the citizen in solving environmental problems.

Community Education (Cont.)

Find out what everybody in the population needs to know about their environment, e.g. (a) living space is small, limited, fragile, (b) interdependence of living systems, (c) industrial-natural cycles, etc.

Through environmental education increase the environmental awareness in all sectors of society.

Through environmental education improve the quality of life for all people.

Establish statewide regional speakers bureau.

Work through existing organizations--civic, church, service, unions, business association, libraries, museums, etc. Take programs to the groups and be prepared to follow up if asked to do so.

Through environmental education, restore environmental quality and encourage environmental conservation as a basic desire of all citizens.

Establishing continuing task forces to act as consultants in order to: (a) find new ways to reach all people through existing organizations (chiefly, nonformal), (b) find new ways to reach college and university level students, (c) find new ways to reach secondary school level students, and (d) find new ways to reach elementary school level students.

(8) Information Exchange

To provide a statewide environmental education network--develop a clearinghouse function with emphasis on curriculum materials.

Develop a clearinghouse for information and materials on environmental education.

Information Exchange (Cont.)

Develop a clearinghouse function to inform groups of existing and evolving programs in environmental education.

Establish at regional universities, private universities, or other regional centers focal points for exchange of environmental information and training.

(9) Survey of Resources

Establish a task force who might survey existing endeavors and resources at its level, and to aid in developing units, modules, minicourses, which could be integrated into existing efforts and/or be a part of new efforts.

Survey of available resources - state and local level, resource personnel and facilities - public and private, existing environmental education programs, environmental education materials, films, etc., environmental study facilities.

(10) In-service Education

Provide a system at the state level for in-service training for teachers.

To provide on-site in-service training in environmental education through appropriation and funding.

Include an evaluative procedure in the Status Report to insure that in-service teacher programs contain the skills and knowledge needed to teach environmental education.

Develop in-service training (summer institutes) for teachers already in the field on environmental concerns (awareness) utilizing various state institutions and other agencies in the state.

(11) Curriculum Development

A regulation be formulated requiring that Environmental Education become a part of the regular school program as defined by the State Board of Education.

Provide guidelines useful in the development of environmental education programs at each grade level infused (incorporated) in the total curriculum.

A committee from a broad spectrum of disciplines to be established by the State Department of Education to develop modules of instruction for environmental education for elementary and secondary levels.

Develop a series of interim instructional activities that can be disseminated for use by local school systems particularly for high school pupils who will graduate within the next three years.

Make effective use of the Tremont "strand" approach.

To develop general environmental education curriculum guidelines.

Environmental education should be integrated in the elementary school subjects; the state should require that a course in environmental education be offered at the high school level and further, a required offering be added at the state college and university level.

(12) Evaluation

To develop an evaluative procedure to determine the effectiveness of the state plan.

Establish annual evaluation and planning conferences for Tennessee environmental education programs.

To continually evaluate and restructure the environmental education programs coordinated by the State.

Evaluation (Cont.)

To evaluate environmental education activities at the local level through the development and use of performance objectives.

(13) Environmental Centers

Establish state-funded field environmental centers.

Provide and promote facilities (field environmental centers) to expose every school child (during grades 5-8) to a five- to seven-day outdoor learning experience.

(14) Other

State Planning Commission and Development Districts create a regional minimum urbanization and land use code.

Division of State Parks should give environmental education a high priority.

RESOURCES

National Park Service, Washington, D. C.

a. NEEDS Program - man-centered approach
b. National Environmental Study Area Program - Guidebook
c. Office of Education - catalog of National Environmental Study Areas
d. Students Toward Environmental Programs (STEP)
e. Promotion of the Use of National Parks for environmental education programs - one week for "school use only"
f. New publications: Resources and Facilities Required for Environmental Education and How to Conduct an Environmental Education Workshop; and book - Consider the Process of Living

State Planning Office

a. Information available for junk car removal
b. Wasteplex Project (ETDD and SETTD) - ORNL

Department of Public Health

a. Bureau of Environmental Health
   1. Public Information
   2. Educational Services (limited)
b. Division of Health Education - materials and film library available
c. Information and materials are available from each of the various divisions, including training manuals
d. Division of Health Education has quarterly bulletin available
e. Technical personnel and related resources are available in certain areas

Department of Conservation

a. Smokey Bear's Story of the Forest, available to schools, 85,000 distributed each year to third grades
b. Smokey Bear's Summer Vacation - reading program sponsored with public library, children sign up to read ten books on selected list. Certificates issued upon completion, 15,000 children per year participate, supported by the Tennessee Federation of Garden Clubs
c. Conservation Education Workshops for Teachers - Fall Creek Falls State Park, jointly sponsored by the Department of Conservation and University of Tennessee, graduate and

Department of Conservation (Cont.)

c. . . . undergraduate credit, scholarships provided by Tennessee Federation of Garden Clubs, Audubon, etc.
d. Film Library - no charge, except return postage

Tennessee Game and Fish Commission

a. Series of films and slide lectures available through Information and Education Division
b. Field personnel participate each year in National Wildlife Week involving talks at all school levels
c. The "Conservationist" magazine is cost shared with the Department of Conservation
d. News releases made to Tennessee newspapers and tapes to radio station
e. Some spot television commercials to promote fish and wildlife resources

Tennessee Valley Authority

a. Division of Personnel Education and Manpower Development Staff, Knoxville, 37902
   1. A wide variety of assistance in planning and developing environmental education and training programs, materials, and facilities
b. Division of Forestry, Fisheries and Wildlife Development Norris, Tennessee, 37828
   1. Mobile field laboratory for studies
   2. Assistance in planning field experiences as they relate to the Division of Forestry, Fisheries and Wildlife Development
c. Land Between the Lakes, Golden Pond, Kentucky, 42231
   1. Resident and day-use programs for schools and general public
   2. Consultant services available to school systems and community throughout the Tennessee Valley and adjacent areas for environmental education program planning, school site development, teacher training and community related programs

Environmental Protection Agency

a. Brochures and related materials
b. Coloring books - to copies of various laws
c. Use county health offices
d. Local problems orientation
e. EPA staff will occasionally provide lectures or speakers

Mid-Cumberland Council of Governments

a. Council is establishing a regional information clearinghouse for 13 counties. Environmental information will be exchanged.

Athens, Tennessee

City-wide environmental camp - Watts Bar Lake, all 6th grades, some 5th, and 9th

Nashville - Memphis

Open Space Project - parks control school grounds, get funds from HUD, school develop only physical plants

Oak Ridge Museum

Equipment and information for environmental quality detection available to classroom teachers (i.e., noise monitoring and exhaust emissions monitoring devices)

Johnny Horizon Program - Corps of Engineers and TVA

Soil and Water Conservation Districts

Watershed Development Districts

Tremont Environmental Education Center

a. Programs in teacher training - environmental education
b. ESA materials and model teacher lesson plans
c. NEED (NPS) Silver Burdett, primarily used by grades 5-6, some 7-8
d. One-week program - classroom follow-up
e. Two-week conservation summer camp - 7th and 8th grades
f. Resident and day-use NESA sites

University of Tennessee at Chattanooga

General environmental materials useful by the elementary teacher

East Tennessee State University

a. Department of Education
   1. Cooperative School Camping program involving 5th graders who participate in one-week program at Buffalo Mountain
   2. Physical Education, Home Economics and Education Departments involved in training camp counselors
b. Department of Environmental Health
   1. B.S.E.G., also Masters of Science in Environmental Health
   2. Fourteen (14) federal stipends (traineeships) available for graduate students

Middle Tennessee State University (Department of Education)

a. Cooperated with TVA in production of Outdoor Education film entitled "Discovery"

Middle Tennessee State University (Cont.)

b. Elementary Education majors - required unit on Outdoor Education
c. Course - "Agriculture in our Lives" (elective) offered
d. Laboratory School - demonstration program
e. Simulated environment Laboratory in new Learning Resources Center
f. Elementary Education majors may elect an area concentration in environmental education (equivalent to a minor)
g. Selected Elementary Education majors serve as student teacher/counselors in outdoor school program
h. Course in School Camping offered by Physical Education Department

Austin Peay State University (NSF) Center for Teachers

a. Preservice - environmental education program emphasizes total curriculum with science and non-science components
b. In-service - offers one-week individualized programs on environmental topics; offers three week total immersion content courses for environmental science teachers; conducts various workshops of one or two days duration. (In-service region restricted to 20 counties in Middle Tennessee and Southern Kentucky)

Tennessee Technological University

(College of Agriculture and Home Economics) in-service training for area teachers (K-12)

Memphis State University

Engineering Concepts Curriculum Project, McGraw-Hill

Motlow College

Proposed environmental education project with local school systems utilizing lands on Tims Ford Reservoir as regional environmental education center, Grades 5-6 - one-week environmental education program

Nashville Metropolitan Schools

a. Coordinator of Environmental Education for Nashville Metro
b. 96 elementary schools - 4th and 5th grade
c. Emphasis on the local school community
   1. Awareness)
   2. Appreciation) Ecological & Nature Study
   3. Understanding)
d. Manual available from Metro Public Schools regarding development of school program

Murfreesboro City Schools

Program in cooperation with the Stones' River National Battlefield

Dickson High School

"Clean Teens" organization

Memphis City Schools

a. Several individual projects
b. Sociology course in eight high schools (11th grade course) with emphasis on environmental problems
c. Applied sciences course at the high school level - ecology
d. Audiovisual packet available regarding environmental indices
e. Elementary consultants will develop a problems' approach for grades 4-9

Kingsport City Schools

a. Mobile environmental education laboratory with equipment for conducting environmental studies (K-12)
b. Day-use facilities at interpretive center at Bays Mountain Park
c. Tremont Center used for resident programs.
d. Developing school sites on outdoor study areas at elementary schools

Federation of Garden Clubs

a. People and Their Environment (PATE) (Contact local Garden Club for information)
b. Fall Creek Falls - Tennessee teachers conservation workshop University of Tennessee - 2 hours credit

Tennessee Citizen's for Wilderness Planning

Making available a series of environmentally related films

"Let's Keep Living Council" - Johnson City

Progressive group working in Environmental Restoration

Junior League

a. "Pollution Solution" project, currently programs on elementary and junior high level
b. Also sponsoring pilot project for 7th grade involving Sierra Clubs, Senior Girl Scouts, etc., as guest instructors
c. Aim is to impart knowledge and use teacher-parent groups to follow-up with problem solving activities. Emphasis on learning and planning projects

League of Women Voters

a. Definite positions on air and water quality
b. Offer testimony at hearings
c. Lobby at State and National levels

League of Women Voters (Cont.)

d. Sponsor workshops on air quality
e. Limited funds available

Boy and Girl Scouts

Special projects

Audubon Society

Tennessee Ornithological Society

National Wildlife Federation

Tennessee Environmental Council

Established an environmental information gathering, exchange, and dissemination service for its members

Tennessee Scenic Rivers Association

Tennessee Conservation League

Cooperative Science Education Center

a. Oak Ridge National Laboratories/National Science Foundation cooperation
b. Executive seminars (decision makers involved - ex. GS-16's and up)
c. Simulation game activities
d. Project VAMP
   1. Air quality project (statewide)
   2. Involves 25,000 high school students
   3. Air monitoring, weather data
   4. Solid waste surveys (6 state area)

Center for In-service Education

a. Title III development of in-service model includes environmental education
b. Cooperative Science Education Center - NSF grant on environmental problems utilizing secondary schools in research, grades 9-12
c. Also simulation game (Enviro County) for decision-making process

Bowater's Pocket Wilderness

Many industries and trade associations have organized programs of public information which can be utilized for environmental education purposes.

ENVIRONMENTAL EDUCATION CONFERENCE

Henry Horton State Park

April 24-26, 1972

Program

Monday, April 24

10:00-12:00 - Registration — Horton Inn Lobby

11:00- 1:00 - Lunch

1:00- 1:30 - Orientation — Large Conference Room

1:30- 1:45 - Group Assignments

1:45- 2:30 - Group Task No. 1

"Identify Concerns about the Environmental Crisis"

2:30- 2:45 - Coffee

2:45- 3:30 - Group Task No. 1 (Cont.)

3:30- 5:00 - Displays of Environmental Materials

Horton Inn Lobby

6:00- 8:00 - Banquet and Welcome

Tuesday, April 25

7:00- 8:30 - Breakfast

8:30- 9:00 - Special Remarks — Large Conference Room

9:00-10:15 - Group Task No. 2

"Explore Existing Endeavors and Resources"

10:15-10:30 - Coffee

10:30-11:45 - Group Task No. 3

"Establish Goals for Environmental Education in Tennessee"

12:00- 1:00 - Lunch

1:00- 2:30 - Group Task No. 4

"Establish Objectives for Environmental Education in Tennessee"

2:30- 2:45 - Coffee

2:45- 4:00 - Group Task No. 5

"Devise Mechanisms for Implementation of State Plan"

5:00- 8:00 - Open

8:00-10:00 - Editing Committee

Group Recorders and Group Leaders

Wednesday, April 26

7:00- 8:30 - Breakfast

8:30- 9:00 - Special Remarks Large Conference Room

9:00-10:00 - Group Reports

10:30-11:00 - Group Interaction

11:00-11:30 - Conference Summary

11:30- 1:00 - Lunch

ENVIRONMENTAL EDUCATION CONFERENCE PARTICIPANTS

Patrick Accardi
Director, Health Education
Department of Public Health
Capitol Hill Bldg., Room 364
Nashville, Tennessee 37219

Don F. Adams
Stone's River National Battlefield
National Park Service
Murfreesboro, Tennessee 37130

Jay L. Allen, Chairman
Department of Health Education
College of Health
East Tennessee State University
Johnson City, Tennessee 37601

Phil Armor
Regional Planner
Mid-Cumberland Development
District
226 Capitol Blvd., Suite 801
Nashville, Tennessee 37219

James Ault
Director
Division of Sanitation
625 Cordell Hull Bldg.
Nashville, Tennessee 37219

James Bailey
Director, Educational Services
Department of Conservation
2611 West End Avenue
Nashville, Tennessee 37203

Dr. John Bailey
Professor, Science Education
East Tennessee State University
Johnson City, Tennessee 37601

Richard M. Barker
Regional Director
A206 Browning Hall
University of Tennessee at Martin
Martin, Tennessee 38237

Andy Barrass
Student, APSU
10-F Emerald Hills
Clarksville, Tennessee 37040

Dr. Bernard W. Benson
Assistant Professor of
Science Education
University of Tennessee at
Chattanooga
Chattanooga, Tennessee 37401

James L. Bilyeu
Public Information Officer
Soil Conservation Service
561 U. S. Courthouse
Nashville, Tennessee 37203

Colonel William Brandes
Nashville District Engineer
U.S. Army Corps of Engineers
P. O. Box 1070
Nashville, Tennessee 37202

R. E. Brinkley
Deputy Commissioner
Department of Education
100 Cordell Hull Bldg.
Nashville, Tennessee 37219

Miss Barbara Brooks
National Park Service
Stone's River National Battlefield
Murfreesboro, Tennessee 37130

Michael Bruner
Director, Bureau of Public Affairs
Department of Public Health
Room 360, Capitol Hill Bldg.
Nashville, Tennessee 37219

James R. Cannon, Coordinator
Instructional Materials &
Related Services
Department of Education
132-A Cordell Hull Building
Nashville, Tennessee 37219

Miss Karen Sue Chadwick
Secretary
Cooperative Science Education Center
156 Adams Lane
Oak Ridge, Tennessee 37830

Bob Chambers
Science Supervisor
Knox County Schools
Knoxville, Tennessee 37917

Dr. Edward W. Chester
Director
Environmental Sciences Program
The Center for Teachers
Austin Peay State University
Clarksville, Tennessee 37040

Ronald Childress
Teacher-Naturalist for Bays Mountain and Kingsport City Schools
2220 Glenwood Street
Kingsport, Tennessee 37664

Peter Cohan
Executive Director
Cooperative Science Education Center
156 Adams Lane
Oak Ridge, Tennessee 37830

Mrs. William G. Coke
637 Belle Meade Blvd.
Nashville, Tennessee 37205
Junior League of Nashville

William T. Conn
Science Supervisor
Memphis City Schools
2225 James Road
Memphis, Tennessee 38127

Sammy Cornwell
Supervisor
Department of Education
111-B Cordell Hull Bldg.
Nashville, Tennessee 37219

Dr. John E. Cox
Assistant Commissioner
Division of Instruction
Department of Education
142 Cordell Hull Bldg.
Nashville, Tennessee 37219

Dr. John E. Czirr
Associate Director
The Center for Teachers
Austin Peay State University
Clarksville, Tennessee 37040

Miss Louise Davis
3501 Amanda Avenue
Nashville, Tennessee 37215
Cumberland Valley Girl Scouts

R. R. Edgar
Director of Woodlands
Bowater Incorporated
Calhoun, Tennessee 37309

Kenneth E. Flatt
Assistant Director for Program Services
Cooperative Science Education Center
156 Adams Lane
Oak Ridge, Tennessee 37830

Perkins Freeman
District Manager
South Central Bell
Northern Bank Building
Clarksville, Tennessee 37040

Dennis Gibson
Children's Museum
724 Second Avenue S.
Nashville, Tennessee 37210

Tommy Gilbert, Head
Office of Interpretive Services and Environmental Education
National Park Service
Interior Building
Washington, D. C. 20240

Dr. Gene Gonsoulin
Head, Biology and Conservation
Volunteer State Community College
Gallatin, Tennessee 37066

Dr. Elizabeth Green
Supervisor, ESEA, Title III
135-A Cordell Hull Bldg.
Department of Education
Nashville, Tennessee 37219

Russ Griffith
Recreation, I & E Staff Officer
Cherokee National Forest
P. O. Box 400
Cleveland, Tennessee 37311

Brad Goodrich, Ranger
U. S. Army Corps of Engineers
P. O. Box 1070
Nashville, Tennessee 38501

Dr. Sumner A. Griffin, Dean
Division of Agriculture
Tennessee Technological University
Cookeville, Tennessee 38501

Mrs. Geraldine Hall
Environmental Education Program
Planner
Forestry Building
Tennessee Valley Authority
Norris, Tennessee 37828

William E. Hancock
Program Specialist
U. S. Department of Agriculture
585 U. S. Courthouse
Nashville, Tennessee 37203

Alan S. Heilman
Associate Professor of Botany
University of Tennessee
Knoxville, Tennessee 37916

Horton Herrin
Executive Secretary
Tennessee Society of Architects
1808 West End Avenue, Suite 401
Nashville, Tennessee 37203

Mrs. Harold Hewgley
1201 Jackson Street
Manchester, Tennessee 37355
Tenn. Federation of Garden Clubs

Chester Hill, Coordinator
Educational Television
Department of Education
117 Cordell Hull Bldg.
Nashville, Tennessee 37219

Mrs. James Hulme
608½ Union Avenue
Knoxville, Tennessee 37902
Knoxville Audubon Society

George Hunter, Supervisor
Health, Physical Education & Safety
Department of Education
132-C Cordell Hull Bldg.
Nashville, Tennessee 37219

Dr. Elbert Inman
Professor of Education
Lambuth College
Jackson, Tennessee 38301

Dr. Ted James
Professor of Biology
University of Tennessee at Martin
Martin, Tennessee 38237

Sam Johnson
Burt Junior High School
Bailey Street
Clarksville, Tennessee 37040

Tom Kelley
Director, Curriculum Planning
Department of Education
132-D Cordell Hull Bldg.
Nashville, Tennessee 37219

E. V. King
Human Resource Planner
Mid-Cumberland Development District
226 Capitol Blvd., Suite 801
Nashville, Tennessee 37219

Van Latture
Social Studies Supervisor
Department of Education
128 Cordell Hull Bldg.
Nashville, Tennessee 37219

Eugene Legler, Planner
Tennessee Game and Fish Commission
Ellington Agricultural Center
P. O. Box 40747
Nashville, Tennessee 37220

Dr. Nile McCrary
Coordinator, School Plant
Department of Education
111-B Cordell Hull Bldg.
Nashville, Tennessee 37219

Dr. Donald C. McGuire
Director, Pre-Service Teacher
Education Program
National Science Foundation
Washington, D. C. 20550

Mrs. W. T. Martin
1217 Blossom Lane
Kingston, Tennessee 37763
Tenn. Federation of Women's Clubs

M. R. Mayfield
Director
Center for Teachers
Austin Peay State University
Clarksville, Tennessee 37040

Miss Joke Milder
Land Between the Lakes
Tennessee Valley Authority
P. O. Box 27
Golden Pond, Kentucky 42231
Exchange Student-Netherlands

Andy Miles
Assistant Director
Environmental Education Center
Tremont College
Townsend, Tennessee 37882

Dr. J. J. Miller
Health Instructor
Department of Health &
Physical Education
Tennessee Technological University
Cookeville, Tennessee 38501

Kenneth Mills
Consultant, Social Studies
Knoxville City Schools
Knoxville, Tennessee 37917

Joe Minor
Director, NDEA, Title III
Department of Education
130 Cordell Hull Bldg.
Nashville, Tennessee 37219

Dr. Monroe T. Morgan
Chairman, Department of Environmental
Health
East Tennessee State University
Johnson City, Tennessee 37601

H. Reid Mullin
Landscape Architect
1304 Winthorne Drive
Nashville, Tennessee 37215
Tennessee Association of Landscape
Architects

Herbert Murphy
Supervisor, Health, Physical Education
& Safety
Department of Education
132-C Cordell Hull Bldg.
Nashville, Tennessee 37219

Mrs. Maxine H. Neas
Principal
St. James School
Route 2
Greeneville, Tennessee 37743

Dr. Ruth Neff
Executive Secretary
Tennessee Environmental Council
Botanic Hall
Tennessee Botanical Gardens
Cheek Road
Nashville, Tennessee 37205

Paul Newmann
Assistant Professor
Chemical Engineering Technology
Nashville State Technical Institute
120 White Bridge Road
Nashville, Tennessee 37209

James E. Ogul
Oak Ridge Associated Universities
Oak Ridge, Tennessee 37830

Dr. William H. Oliver
Professor of Health Education
University of Tennessee
Knoxville, Tennessee 37916

Captain Richard Payant
U. S. Army Corps of Engineers
P. O. Box 1070
Nashville, Tennessee 37202

Mrs. John T. Pierce
League of Women Voters
Seaver Road, Route 4
Kingsport, Tennessee 37660

Harold N. Powers
Principal, City Park School
Keith Lane
Athens, Tennessee 37303

Mack S. Prichard
State Archeologist
Department of Conservation
2611 West End Avenue
Nashville, Tennessee 37203

Miss Mary Margaret Ramsey
Supervisor
Hardin County Schools
Savannah, Tennessee 38372

Dr. Richard J. Raridon
Project WASTE Coordinator
Cooperative Science Education
Center
156 Adams Lane
Oak Ridge, Tennessee 37830

Jerry Rice
Science Supervisor
Department of Education
128 Cordell Hull Building
Nashville, Tennessee 37219

Miss Julia Ruth Richardson
Supervisor
Hamilton County Schools
Chattanooga, Tennessee 37403

Larry Richardson, Chief
Information-Education Division
Game and Fish Commission
Box 40747
Nashville, Tennessee 37220

William T. Rickman
Environmental Education Specialist
Cooperative Science Education
Center
156 Adams Lane
Oak Ridge, Tennessee 37830

Miss Elizabeth Roller
Outdoor Education Supervisor
Metropolitan Nashville Schools
2601 Bransford Avenue
Nashville, Tennessee 37204

Mrs. Cora Rowe
Supervisor
Secondary Classroom Social Studies
Shelby County Schools
Memphis, Tennessee 38112

Charles Searcy
Outdoor Editor
Tennessee Outdoor Writers Association
Chattanooga Times
117 E. Tenth Street
Chattanooga, Tennessee 37401

Dr. Randolph Shields
Head, Biology Department
Maryville College
Maryville, Tennessee 37801

Clifford G. Smith
Information Services
Cooperative Science Education Center
156 Adams Lane
Oak Ridge, Tennessee 37830

E. C. Stimbert
Commissioner
Department of Education
100 Cordell Hull Bldg.
Nashville, Tennessee 37219

L. J. Strickland
Professor and Leader
Resource Development
University of Tennessee
P. O. Box 1071
Knoxville, Tennessee 37901

Mrs. Pat Swaney
818 Brentview Drive
Nashville, Tennessee 37220
Tenn. Federation of Garden Clubs

Charles Taylor
Stones River National Battlefield
National Park Service
Murfreesboro, Tennessee 37130

Dr. Edward L. Thackston
Staff Assistant for Environmental Affairs
Governor's Office
1025 Andrew Jackson State Office Bldg.
Nashville, Tennessee 37219

Greer Tidwell
Environmental Protection Agency
4004 Hillsboro Road
Nashville, Tennessee 37215

Donald Tubbs
Social Studies Consultant
Memphis City Schools
2597 Avery Avenue
Memphis, Tennessee 38112

Mrs. Ann Tuck
Assistant Commissioner
Department of Conservation
2611 West End Avenue
Nashville, Tennessee 37203

David N. Van Hoven
Biology Department
Maplewood High School
401 Maplewood Lane
Nashville, Tennessee 37216

Theodore Von Cannon
Development District Coordinator
State Planning Commission
C-2 203 Central Services Bldg.
Nashville, Tennessee 37219

Dr. Donald Wakefield
Director
Upper Cumberland Development District
332 Business Administration Bldg.
Tennessee Technological University
Cookeville, Tennessee 38501

Larry Welch
Executive Director
Clarksville Chamber of Commerce
312 Madison Street
Clarksville, Tennessee 37040

Dr. John P. Williams
Professor of Education
Middle Tennessee State University
Murfreesboro, Tennessee 37130

Miss Ann Winstead
Conservationist (Resource Education)
Land Between the Lakes
Tennessee Valley Authority
P. O. Box 27
Golden Pond, Kentucky 42231

Dr. Paul Wishart
Professor
Science Education
College of Education
University of Tennessee
Knoxville, Tennessee 37916

Donald Wood
Coordinator
Curriculum and Supervision
Department of Education
140 Cordell Hull Bldg.
Nashville, Tennessee 37219

Gene A. Young
U. S. Army Corps of Engineers
P. O. Box 1070
Nashville, Tennessee 37202